1976

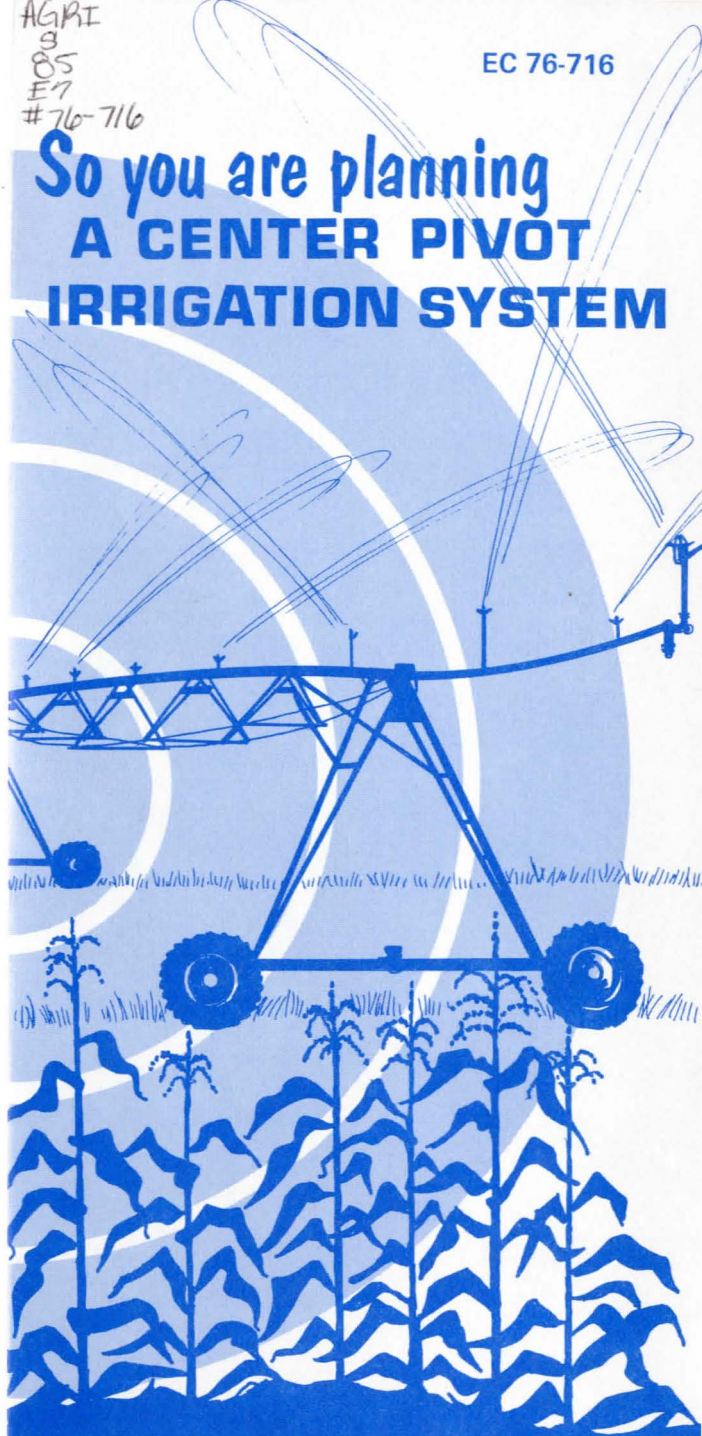
EC76-716 So you are Planning a Center Pivot Irrigation System

Densel W. O'Dea

Warren Peden

EC 76-716

So you are planning A CENTER PIVOT IRRIGATION SYSTEM



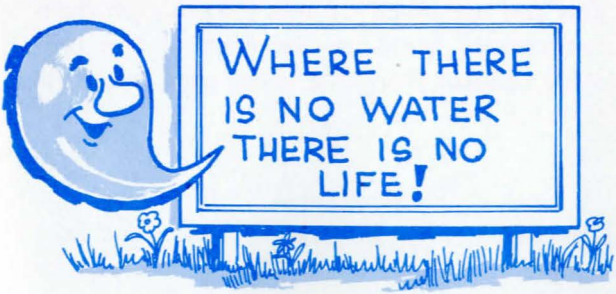
Extension work in "Agriculture, Home Economics and subjects relating thereto," The Cooperative Extension Service, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Cooperating with the Counties and the U.S. Department of Agriculture
Leo E. Lucas, Director

Have you these

I considered all factors . . .

By Densel W. O'Dea, Morrill County Extension Agent, and Warren Peden, Range Scientist, Soil Conservation Service

1. WATER QUANTITY
2. WATER QUALITY
3. SOIL RESOURCES
4. PLANT RESOURCES
5. FEED AND FORAGE BALANCE
6. CLIMATIC FACTORS
7. ENGINEERING FACTORS
8. LAWS AND REGULATIONS
9. ECONOMICS
10. FINANCING



Before Investing
You Need to Know

1. Water Quantity:

   Enough water for acres to be irrigated? How sure are you of the water bearing formations?

2. Water Quality:

   Poor quality water can seal the soil and affect crops. Water quality tests may save you fertilizer dollars. Does a pollution source exist?

3. Soil Resources:

   Sandy
   Clayey
   Alkali
   Wet

   What conservation measures are needed to prevent wind and water erosion?

4. Plant Resources:

   Select proper varieties. Know the water demand of your crop.

5. Feed and Forage Balance:

   Balance winter feed with summer forage so rangelands are not overgrazed.

6. Climatic Factors:

   Is growing season long enough for that crop? High-low temperatures limit crops, yields, uses and choices.

7. Engineering Factors:

   Power
   Sprinkler size
   Water application
   Timely irrigation

8. Laws and Regulations:

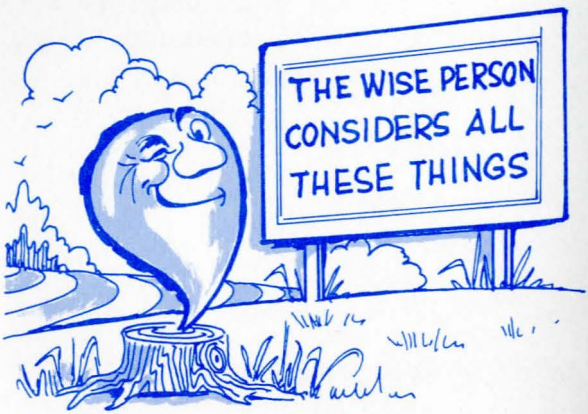
   Registration and Spacing of Wells.

9. Economics:

   Are annual returns greater than annual fixed and variable costs? Lease or purchase? Cost and return projections.

10. Financing:

    Short term, long term financing, or direct leasing.
    Factors affecting financing eligibility:
    1. Your experience
    2. Your management ability
    3. Your land
    4. Other assets



You can get much of this information from publications listed on the back of this brochure, and/or from the sponsoring organizations.

The center pivot irrigation program and brochure is the result of continuing cooperation between the

Panhandle Resource Council
Soil Conservation Service
Natural Resource Districts
University of Nebraska Cooperative Extension Service.

For further information contact any one of the above agencies.

Soil surveys have been completed in many counties in Nebraska. If your county survey has been completed, you can get the needed information on your soils through your county agent.

Publications available:

CC 190— Applying Nitrogen Fertilizer in Irrigation Water, 63,
CC 268— Questions and Answers on Nebraska's Groundwater Management Act, 75,
EC 55-700— Field Moisture Test for Determining When to Irrigate, 55,
EC 71-702— Nebraska Minimum Standards for Artificially Gravel Packed Irrigation Wells, 71,
EC 58-704— Efficient Irrigation, 58,
EC 60-713— It Pays to Test Your Irrigation Pumping Plant, 60,
EC 69-729— Off Season Care of Irrigation Equipment, 69,
EC 64-733— Pump Irrigation Cost Analysis, 64,
EC 71-752— Scheduling Irrigations by Electrical Resistance Blocks, 71,
EC 74-760— How to Adjust Vertical Turbine Pumps for Maximum Efficiency, 74,
EC 68-775— Your Pumping Plant May Be Using Too Much Fuel, 68,
EC 70-788— How to Get a Good Irrigation Well, 70,
EC 71-792— Applying Fertilizer in the Irrigation Water, 71,
EC 71-799— Engineering the Irrigation Pumping Plant, 71,
G 73-20— Fertilizing Through Center Pivots, 73,
G 73-43— Anti-Pollution Devices for Applying Chemicals Through the Irrigation System, 73,
G 73-58— Top Yields With Least Water, 73,
G 74-98— Buying a Center Pivot, 74,
G 74-155— Sprinkler Irrigation on Sandy Soil, 74,
G 74-192— Irrigation Wells That Pump Air, 74,
G 74-193— Electric-Drive Center Pivots, 74,
QR 90— Irrigate, Fertilize In One Operation, 64,
QR 2-71— Irrigating Corn for 200 Bushel Per Acre Yields, 71,
QR 8-72— Irrigate and Control Weeds in a Single Operation, 72,
RB 266— Growth Potential of Sandhills Ranches Through Irrigation, 75,
G 73-3— Fertilizing Irrigated Pastures, 73,
G 73-8— Fertilizing Sugar Beets, 73,
G 73-16— Fertilizer Recommendations for Field Beans, 73,
G 74-81— Testing Irrigation Water, 74,
EC 71-850— Cash Flow Planning—With the Aid of Your Record Book and Budgeting, 71,
EC 72-857— Costs and Returns for Center-Pivot Irrigated Corn, 72,
EC 74-861— Estimating the Most Profitable Use of Center-Pivot Irrigation for a Ranch, 74,
G 75-216— Fertilizing Irrigated Corn on Sandy Soils, 75,
RB 267— Rates of Water Entry Into the Subsoil of Several Soil Series in Nebraska, 75,
UN-L Ag Econ Report No. 68 - Cost of operating Center Pivot Systems on irrigated pastures 1972-1974 and projected costs for 1975-1976.

Most of the above publications are available at local County Extension Offices.